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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of

SVANBRO et al — Atty. Ref.: 2380-272; Confirmation No. 4790

Appl. No. 09/678,340 — TC/A.U. 2662

Filed: October 3, 2000 — Examiner: McLoughlin, M.

For: CONTEXT IDENTIFICATION USING HEADER COMPRESSION KEY AT LINK LAYER

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June 4, 2004

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

AMENDMENT

Responsive to the Official Action dated March 4, 2004, please amend the above-identified application as follows:

Amendments to the Specification begin on page 2.

Amendments to the Claims are reflected in the listing of claims which begins on page 5.

Amendments to the Drawings begin on page 21.

Remarks/Arguments begin on page 22.

AMENDMENTS TO THE SPECIFICATION:

Please amend the paragraph beginning at page 2, line 30, and continuing to page 3, line 7, as follows:

Thus, a major problem with transmitting voice using Internet Protocol over a wireless (e.g., air) interface is the large size of headers of the protocols employed when sending speech data over the Internet. For example, an IPv4 packet with speech data has an IP header, a UDP header, and an RTP header, which ~~altogether~~ all together total 20+8+12=40 octets. With IPv6, the IP header is 40 octets for a total of 60 octets. The size of the speech data depends on the codec, and can be from 15 octets to 30 octets. These relatively large numbers would militate in favor of terminating the IP protocols prior to the air interface, since the IP/UDP/RTP headers require a higher bit rate and cause inefficient use of the expensive radio spectrum

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Please amend the paragraph beginning at page 5, line 3, and continuing to page 5, line 17, as follows:

An undertaking known as the Third Generation Partnership Project (3GPP) has endeavored to evolve further the UTRAN and GSM-based radio access network technologies, including header compression for UDP/IP and TCP/IP headers. One aspect of the 3GPP system which is of importance for header compression schemes is the concept of logically separated channels or radio bearers (instead of completely shared channels [such as, for example, the Internet]). It has been proposed that context identifiers (CIDs) be used to identify which context should be used to decompress a compressed header. *See*, S. Casner, V. Jacobson, "Compressing IP/UDP/RTP Headers for Low-Speed Serial Links", RFC 2508, February 1999; and Mikael Degermark, Bjorn

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Nordgren, Stephen Pink, "IP Header Compression", RFC 2507, February 1999. In a 3GPP cellular system, there has already been a de-multiplexing of the traffic onto different radio bearers.~~-~~ ~~(need a definition of the radio bearer. Need to included the radio protocol interface architecture in the figures TS 25.301), and this~~This separation reduces the need for context identification. Therefore, the number of contexts per radio bearer are relatively small ~~(something like this)~~.

Please amend the paragraph beginning at page 13, line 11, and continuing to page 13, line 17, as follows:

As an example for the second mode, a first k number of values in first field 23A of header compression key 23 may be used to differentiate between k number of different header compression identifiers [e.g., header compression identifiers 0 through (k-1)]. The remaining values of first field 23A can then be used to distinguish between the different flows of compressed packets (CIDs) for one or more header compression algorithms. Thus, when the first field 23A has five bits, the $k+1^{th}$ through 32^{nd} values of the first field 23A can refer to a compression context identifier.

Please amend the paragraph beginning at page 13, line 18, and continuing to page 13, line 22, as follows:

From the foregoing it will be appreciated that, if the value in the first field 23A of header compression key 23 is ~~a~~ one of the first k number of possible values, it is recognized as a header compression identifier. On the other hand, if the value in the first field 23A of header compression key 23 is outside (e.g., greater) than the first k number of possible values, it is recognized as a flow identifier (e.g., CID).

Please amend the table beginning at page 18, line 1, and continuing to page 18, line 3, as follows:

TABLE 2

BIT	PDU Type
000	PID field used for header compression information (mode ~~1~~2)
001	PID field used for header compression information and the PDCP PDU sequence number included (*See*, Third Generation Partnership Project (3GPP) Specification 3G TS 25.323 V3.3.0 (2000-09), Section 8.2.3)
010	PID field used only for context identifiers (CIDs) for ROHC only (mode 1)
011	PID field used only for context identifiers (CIDs) for Method C only.
100 - 111	Reserved

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